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3阶非单谷Feigenbaum映射的拟极限集

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摘要 本文讨论一类3阶Feigenbaum映射的拟极限集的存在条件及其Hausdorff维数。3

阶Feigenbaum映射必然产生混沌, 从而使其拟极限集的存在性问题复杂化。利用分形几何中的方法证明了此类映射拟极限集的存在性, 并对其Hausdorff维数作出估计。并给出具体例子说明确实存在这样的映射。

关键词 [p-阶非单谷Feigenbaum映射](#) [拟极限集](#) [Hausdorff维数](#)

分类号 [39B52](#)

Likely Limit Sets of 3-order Nonsingle-Valley Feigenbaum's Maps

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Abstract A continuous map from a closed interval into itself is a 3-order Feigenbaum's map if it is a solution of the functional equation $f^3(\lambda x) = \lambda f(x)$. In this paper, we consider likely limit sets of 3-order nonsingle-valley Feigenbaum's maps and their Hausdorff dimensions. 3-order nonsingle-valley Feigenbaum's maps must bring chaos, and chaos also brings the complication of the problem on the existence of likely limit sets. We testify the existence of the maps' likely limit sets by using the method of fractal geometry, estimate their Hausdorff dimensions. As an application, we give a idiographic example in order to proof the existence of 3-order nonsingle-valley Feigenbaum's maps.

Key words [p-order nonsingle-valley Feigenbaum's map](#) [Likely limit sets](#) [Hausdorff dimension](#)

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